

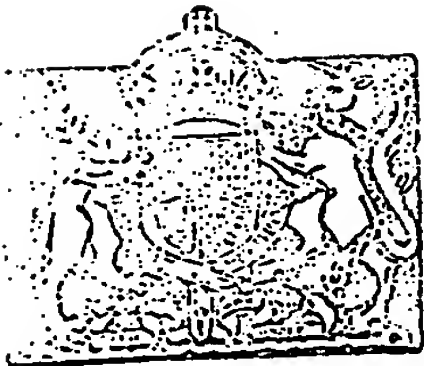
PATENT SPECIFICATION

Application Date: Dec. 20, 1940. No. 17975/40.

545,333

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Complete Specification Accepted: May 20, 1942.



PROVISIONAL SPECIFICATION

Improvements in or relating to Gas Burners

We, TURLEY & WILLIAMS LIMITED, a British Company and CHARLES DONALD SMITH, a British Subject, both of the said Company's address, Highgate Street Works, Birmingham, 12, and DOUGLAS HENRY OTTON, a British Subject, of the same address do hereby declare the nature of this invention to be as follows:—

10 This invention relates to gas burners of the type in which an injector nozzle draws in a supply of air into the venturi or mixing tube feeding the burner orifices, and it has for its object improved means for adjusting the air inlet opening.

15 According to the present invention, the end of the venturi or mixing tube or part carried thereby or forming the end of the air intake passage for the injected air is adjustable axially in relation to the injector nozzle and, conveniently, the venturi tube or the said part is connected by an adjustable member mounted on the fitting carrying the injector nozzle. By this invention also the air inlet is formed between a conical face of the injector nozzle and a conical face at the end of the intake passage of the venturi tube and the distance between such faces is adjustable to vary the air intake.

30 According to a convenient embodiment of this invention, the body of the fitting carrying the injector nozzle is screw

threaded and an internally screwed sleeve is adjustably mounted thereon, the sleeve having an angular groove therein. The venturi or mixing tube has an upwardly and outwardly projecting flange at the top front end and a notched shoe plate is fixed by means of pins to side ear pieces on the said flange. The shoe plate engages, from above, the annular groove in the adjusting sleeve. The venturi tube has a cylindrical bore for a short distance, the bore then expanding conically. The outer end of the bore is countersunk, the angle being the same as that of the nose of the injector nozzle.

When the adjusting sleeve aforementioned is adjusted axially, the venturi tube is correspondingly adjusted axially, thereby adjusting the space between the conical wall of the nozzle and the conical face of the countersunk portion of the bore. One flange of the sleeve is hexagonal or similarly shaped for convenience in rotating the sleeve and a lock nut is provided for locking the sleeve in the adjusted position.

Dated this 19th day of December, 1940.

E. S. LOCKWOOD,

Patent Agent for the Applicants,
3, New Street, Birmingham, and
31, Queen Street, Wolverhampton.

COMPLETE SPECIFICATION

Improvements in or relating to Gas Burners

We, TURLEY & WILLIAMS LIMITED, a British Company, CHARLES DONALD SMITH and DOUGLAS HENRY OTTON, both British Subjects, and both of the said Company's address, Highgate Street Works, Birmingham, 12, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

70 This invention relates to gas burners of the type in which an injector nozzle draws in a supply of air into the venturi or mixing tube feeding the burner orifices and in which the end of the venturi or mix-

ing tube engages a ring screwed on the injector nozzle to adjust the space between the nozzle and the mixing tube, and it has for its object improved means for adjusting the air inlet opening and obtaining extinguishing or non-lighting back properties.

80 According to the present invention, the end of the venturi or mixing tube has a flanged hood comprising a forwardly projecting flange extending from the top and sides of the upper portion of the tube and which flange carries an inwardly directed flange, for detachably engaging an adjusting sleeve or ring screwed on the injector

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nozzle or fitting carrying the injector nozzle and for covering the end of the space between the end of the mixing tube and the nozzle. The flanged hood may be
5 formed on the end of a tube fitted inside the mixing tube.

In order that the invention may be clearly understood and readily carried into effect, reference may be had to the accom-
10 panying drawings, on which:—

Figure 1 is a longitudinal section through a device constructed according to this invention.

Figure 2 is an end view of the venturi
15 or mixing tube, and

Figure 3 is a plan view of the part shown by Figure 2.

According to a convenient embodiment of this invention, the body of the fitting 1
20 carrying the injector nozzle 2 is screw threaded and an internally screwed sleeve or ring 3 is adjustably mounted thereon, the sleeve having an annular groove 4 therein. The venturi or mixing tube 5 has
25 a semi-circular U-shaped flange or flanged hood 6 formed thereon or in a modified form has an upwardly and outwardly projecting flange at the top front end and a notched shoe plate is fixed by means of
30 pins to side ear pieces on the said flange. The downwardly directed flange of the hooded flange or the shoe plate engages, from above, the annular groove 4 in the adjusting sleeve. The flanged hood
35 covers the space between the mixing tube and the nozzle. The venturi tube has a cylindrical bore 7 for a short distance, the bore then expanding conically. The bore may be formed in a separate tube 8 fitted
40 in the tube 5 and the flange 6 is formed on the tube 7. The outer end of the bore is countersunk at 9, the angle being the same as that of the nose 10 of the injector nozzle.

When the adjusting sleeve aforementioned is adjusted axially, the venturi tube is correspondingly adjusted axially, thereby adjusting the space between the conical wall of the nozzle and the conical
45 face of the countersunk portion 9 of the bore. The mixing tube can be readily detached from the fitting carrying the injector nozzle. One flange of the sleeve
50 3 may be hexagonal or similarly shaped for convenience in rotating the sleeve and a lock nut may be provided for locking the sleeve in the adjusted position. The venturi tube carries the usual burner
55 ring which is capable of sliding movement on its support. 60

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we
65 claim is:—

1. A gas burner of the type set forth in which the end of the venturi or mixing tube has a flanged hood comprising a forwardly projecting flange extending from the top and sides of the upper portion of
70 the tube and which flange carries an inwardly directed flange, for detachably engaging an adjusting sleeve or ring, screwed on the injector nozzle or fitting carrying the injector nozzle and for
75 covering the end of the space between the end of the mixing tube and the nozzle.

2. A gas burner as set forth in claim 1, in which the flanged hood is formed on the end of a tube fitted inside the mixing tube. 80

3. A gas burner substantially as herein set forth and illustrated.

Dated this 11th day of December, 1941.

J. E. S. LOCKWOOD,
Patent Agent for the Applicants,
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Birmingham, and
31, Queen Street, Wolverhampton.

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 2.

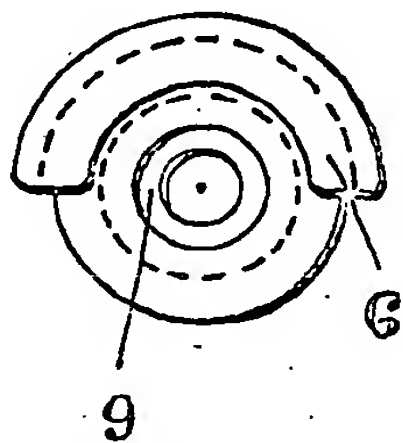


Fig. 1.

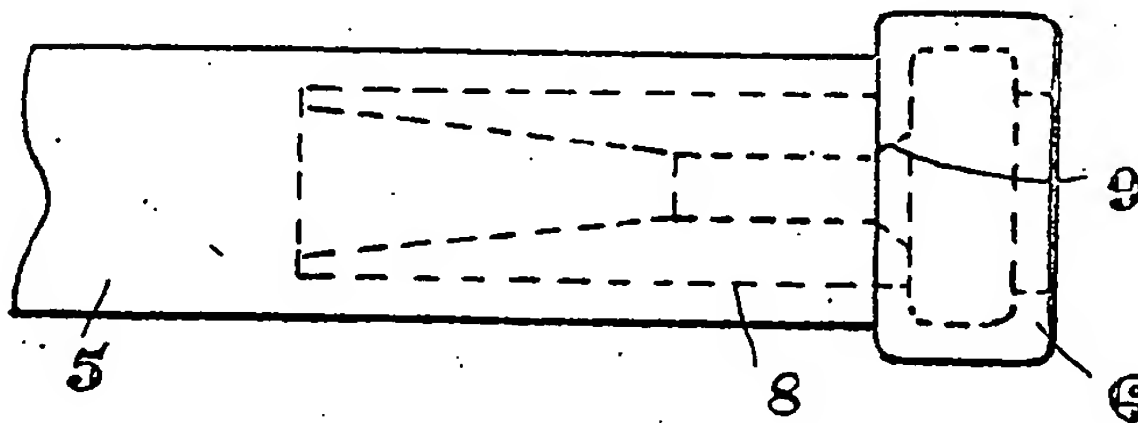
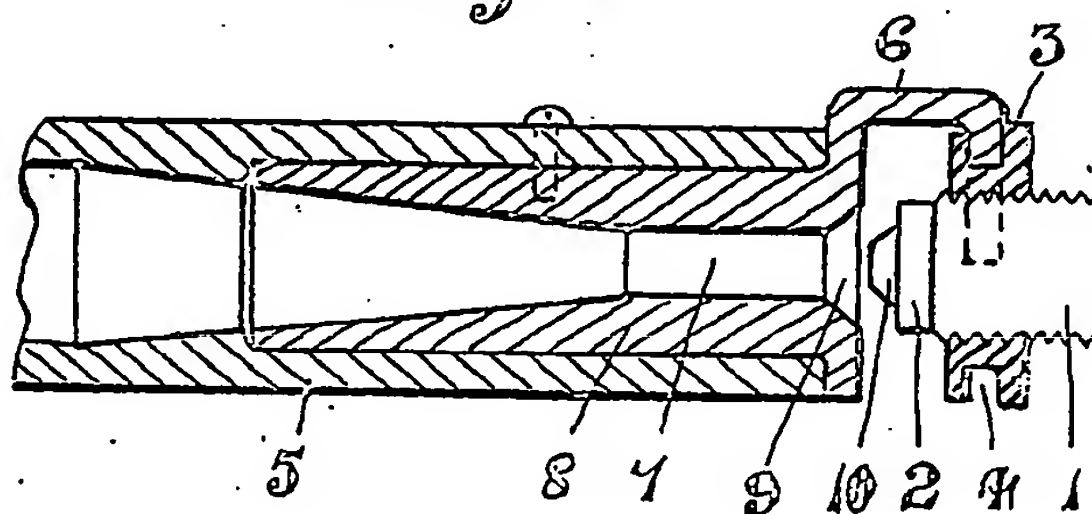


Fig. 3.